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ABSTRACT

Using Status Characteristic Theory as a theoretical framework, increasing status distinctions between professional group members were predicted to decrease the quantity of task related information and quality of decisions made in small problem-solving groups. Three experimental conditions were created: (1) occupational prestige manipulated, (2) prestige and age varied, (3) age, race, and prestige varied. One hundred forty nursing students participated. Interaction was scored from videotaped discussions. Some of the findings were that groups in condition two brought more information into the discussion, and their decisions were judged higher in quality. Other data suggest that performance in the other two conditions was inhibited by the occurrence of a status struggle. Also included are 11 tables and a 14-item bibliography. (Author/BP)

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THE EFFECTS OF STATUS SPACE AND STATUS STRUGGLE ON GROUP DECISION MAKING

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We see increasing use of teaming in teaching and nursing, but little is known about the sources of inter-personal problems experienced by teams in professional settings. Further, few schools of education or nursing offer specific training for dealing with the problems that do occur. Problem solving efforts within these work groups have a profound influence on the clients served. For example, the group decision-making will affect how problems are diagnosed, what solutions are proposed, and how services are coordinated. Often these groups are composed of both professionals and members of the "new occupations," e.g. teacher aides, social-work aides, and vocational nurses. This study examined the effect of status differences within teams of nursing students on the quality of team problem-solving. A general theoretical framework is used, the theory of "Status Characteristics and Expectation States," in order that the results might be applicable to teams in either the field of nursing or education.*

Sources of Interpersonal Problems in Groups

Heinicke and Bales (1953) observed some years ago that while newly formed decision-making groups tend to develop relatively stable patterns of interaction, the development of this stability is by no means inevitable. We are constantly reminded of this fact by the cases of groups which disintegrate soon after formation, or continue for a long period in a state of inner turmoil. They have noted that the development of stable structures in groups may not occur as the result of time alone. It may be equally important to consider both the task the group is faced with and the environment in which it operates as well as the composition of the group's membership.

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*This paper is based on the results of unpublished dissertation of Joan R. Bloom, "The Effects of a Status Set on Decision-Making in Small Task Oriented Groups," Stanford University, 1973.

A factor that is felt to impede the development of relatively stable patterns of interaction is an overt struggle for leadership of these groups. A continuous challenge to the hierarchy attempting to merge is referred to as a status struggle.

The exploratory work of Heinicke and Bales (1953) suggests that if the emerging leadership is not continuously challenged, a stable status hierarchy develops early in the group's history. As no one challenges the positions of the emerging leaders of the group, they can permit others to play a more active role without fear of losing their own position in the group. When the problem of leadership in the group is resolved, more time is spend on problem resolution and less time is spent jockeying for position within the group. Such groups takes less time to make decisions, make better decisions, and express more satisfaction. Most of the work on the process by which leadership hierarchies emerge in newly formed groups has focused on initially equal status groups, (Bales, 1951; Heinicke and Bales, 1953; Fishek and Ofshe, 1970).

When members of a group are intially differentiated by some social characteristic, the leadership hierarchy that emerges is positively related to the relative prestige of the members of the group. This initial differentiation should assist the group members in socially defining the situation and prevent a struggle for leadership from occurring, but is responsible for other sources of interpersonal difficulties.

When properties or attributes of individuals such as occupational prestige, ethnicity, age, sex, etc. are used to vertically differentiate members of groups, these properties are called status characteristics. Whether the status characteristic is a professional distinction, such as the difference between a teacher and a teacher aide, or an extra-professional distinction, such as age differences,

race differences, or sex differences, the research findings are consistent. Participants with lower valued state of the status characteristic participate less and are less influential in getting their ideas accepted by the other group members, (Caudill, 1958; Exline and Ziller, 1958; Torrance, 1965; Cohen, 1971; Deal 1970; Hall, 1972).

In professional work groups, this "inactivity" has a most undesirable consequence. The individual who has the most intimate contact with the client (a student or a patient) may fail to contribute vital information or offer useful ideas in the decision-making process. Even if information or useful ideas are offered, they may fail to get the same consideration that the contributions of the relatively higher status members of the group receive. In other words, the sources of interpersonal problems in unequal status groups arise from a different aspect of the social structure.

The process by which these status differences come to affect performance is through the expectations individuals hold for themselves and others. Expectations are beliefs about how a given person will perform in a given situation. They are based on relative evaluations. Due to the generalizing quality of expectations, predictions about future performances are made, (Foschi, 1972). When low expectations are held for the low status members their involvement in the group is inhibited. Contributions by these members are less likely to be positively evaluated. This serves to reinforce their initial expectations. Once expectations are formed they tend to be maintained over time, (Whyte, 1943; Harvey, 1953; Bales, 1951).

The Basis of Status Within Nursing

Because of changes in the nature of the occupation, there is no longer a homogeneous vocational group called "nurse." This term refers to anyone

associated with the care of patients and so refers to the trained nursing aide on one end of the career ladder as well as to the highly trained graduate of a five year baccalaureate program at the other end. Nursing teams found in the hospital consist of at least two and usually more of these differently prepared and credentialled nurses. In terms of occupational prestige, the career ladder in nursing can be defined as follows:

Trained Aide Training occurs on the job and takes approximately six weeks.

Licensed Vocational Nurse (LVN) Training is offered by an evening or vocational high school, a hospital, or a community college. Training is based on specified number of hours of practice that must be completed, usually taking one calendar year in the first three locations or three academic semesters. On completion, the graduate is eligible to take a state licensure examination for vocational nurses.

Associate Degree Nurse (ADN) After completion of a two year program in a community college which includes a nursing major and some liberal arts, the graduate is eligible to take a state exam for Registered Nurse licensure.

Diploma Graduate The graduate of a traditional diploma program spends three years in which learning is combined with practice. Eligibility for state licensing by examination occurs upon graduation.

Baccalaureate Graduate (BN) Completion of a four or five year program implies that the graduate has a liberal arts background combined with biological sciences during the first two years of college, with a concentration of the nursing major during the last two or three years. The graduate of this program takes the same state exam for Registered Nurse licensure.

As the amount of required education increases, the likelihood that the student is younger, from a higher socio-economic background, and white also increases. In other words, the extra-professional statuses of the nurse tend to correlate with her position on the nursing career ladder. Thus, the position of "nurse" includes both the extra-professional dimensions of status, such as race and age and the intra-professional dimension of status which is occupational prestige.

The juncture between the LVN and the ADN programs is where the correlation between the extra-professional dimensions and the intra-professional dimensions of status is most noticeable. Usually the LVN is older and from a lower socio-economic background. Often she has returned to school to get vocational training after having raised her family. On the other hand, the associate degree nursing student usually continues her education directly after high school and is of a higher socio-economic background.

Status Characteristic Theory

The problem can be conceptualized using the theory of Status Characteristics and Expectation States, (Berger, Cohen, and Zelditch, Jr., 1966). This theory explains the way in which prior status factors determine the emergent power-prestige order in task-oriented groups. According to the theory, race, age, and occupational prestige are identified as diffuse status characteristics for the following reasons:

(1) There are different states of the status characteristic (LVN and RN, black and white, older and younger[1]); and associated with these states is a system of beliefs involving valued and disvalued characteristics.

(2) General expectations are associated with each state of the diffuse status characteristics of age, race, and occupational prestige which are guiding beliefs as to how well the actor will perform in a wide variety of situations.

The theory specifies certain scope conditions under which the power and prestige order developing in the group should show the same ordering as the values of the diffuse status characteristic. These scope conditions are: 1) the task must have differing outcomes, in which some outcomes are viewed as success and others as failures; 2) the nature of the task must require the

[1]For women, being older is the lower state of the diffuse status characteristic of age (see Exline and Ziller, 1958).

participants to take each other's behavior into account; 3) the task completion must be valued by the participants; 4) there must be some element of competence involved which is perceived as instrumental for a successful outcome; 5) the competence involved must not have been previously specifically associated or dissociated from the diffuse status characteristic; and, finally, 6) the diffuse status characteristic must be the only basis for discriminating between the participants, (Berger, Cohen, Zelditch, 1966, p. 47).

Under these conditions the theory predicts that the power and prestige order of the group will be affected by the diffusion process. We are directed to look at four dimensions of the group interaction; action opportunities, performance outputs, unit evaluations, and influence. The distribution of all these dimensions taken together is called the "observable power-prestige order." There is a high correlation between the components of this order, (Berger, Cohen, and Zelditch, 1966, p. 40).

Until recently, most of the research dealing with the effects of a diffuse status characteristic has focused on a single status characteristic. In the natural setting, however, status differences between individuals are often along more than one dimension. At the time this research took place the theory did not consider situations in which multiple status characteristics operated. In order to predict the effects of the combining of diffuse status characteristics, additional assumptions were made. It was assumed that 1) status space increases according to an additive model, 2) each of the diffuse status characteristics has a positive effect on interaction, and 3) the observed power and prestige is a function of status space.

The general proposition tested by this study related the number of differentiating status characteristics to the size of the status space. On an inter-status team of ADN and LVN students who are both white and of the

same age, the status space would be less than on an inter-status nursing team in which the LVN students were black and older than their young, white ADN student colleagues. In the former case, occupational prestige is the only basis of differentiation, while in the latter case two extra-professional differences exist as well as the inter-professional difference of occupational prestige.

I. As the status space between the members of the group increases, the sharper are the differences in the power and prestige between members with the high valued states of the status characteristics and with the low valued states of the status characteristics.

Clinical consequences are predicted to occur as the result of the increase in status space. The following predictions specify these dysfunctional effects. Since a greater proportion of communication occurs bewteen members of the same occupational grouping than between members of different occupationals groupings, the amount of differentially known information brought into an inter-status group discussion may be limited.

II. As the status space between the members of the group increases, the amount of differentially known information brought into the group discussion will decrease.

The amount of information brought into the discussion as well as the variety of ideas suggested for solving the problem will affect the quality of the decisions that a group makes. I am arguing that both factors are related to status space.

III. As the status space between the members of the group increases, the quality of the decisions made by the group will decrease.

Method of Approach

Any professional work group composed of professionals and members of the "new occupations" could be profitably studied. Vocational nurse-registered nurse work teams were selected for two basic reasons: 1) nurses work in hospitals which compared to educational institutions have a clearly articulated

and centralized authority structure, and 2) occupational distinctions within nursing are well defined and have clear role-expectations. Thus differences found could not be attributed to unclear authority relationships or role ambiguities.

In this study three different diffuse status characteristics are studied: 1) occupational prestige, 2) age, and 3) race. The high state of the three diffuse status characteristics were distributed amongst two members of the group in a consistent combination. The other two members of the group possessed the low state of the one, two or three diffuse status characteristics. A schematic design showing the different status sets in the design is presented in Figure 1.

FIGURE 1 ABOUT HERE

Sample

The sample consisted of 70 associate degree (RN) and 70 vocational nurse (VN) students who were about to graduate from their respective programs within the Community College. Four-person groups were formed, each containing two RN and two VN students.

The Task

The task was developed for this study. It is a case discussion about a simulated patient care problem. Two features of the task are important: It has a correct answer. Second, some information about the patient that is relevant to the solution of the problem is randomly distributed amongst the group members. This information becomes available to the entire group only if it is contributed to the discussion by each member.

Data Source

The group discussions between the RN and the VN students were videotaped. Three observers scored the interaction from the videotapes and transcribed the

group's decisions. Using a pre-determined criteria on good nursing care, three nursing experts evaluated the quality of the decisions. Additionally, each participant completed a questionnaire following the discussion.

Observation of Task-Oriented Participation

Task-oriented participation is an indicator of the power and prestige order. Coders were instructed to score the initial offering of information from the case study as "information." It was additionally scored as task-oriented participation if it was also evaluated or elaborated on by the initiator. This rule was imposed as the participants were aware that their case discussions contained information which was known only to them and this might act as an inducement to participate. It was felt that an artificial increase in the participation of some of the subjects might result.

An act was defined as an uninterruped speech of varying lengths containing a complete thought. If a speech were interrupted by another actor, interrupted by the initial offering of information, or if the recipient changed, another act was scored. Only task-oriented participation was coded.

A Chi Square test of significance was used to determine whether the disagreement between the observers' scoring could be attributed to chance. One-third of the groups were randomly selected and double scored for reliability checks. At the end of training the reliability was:

$$\text{Chi Square} = .21 \quad \text{d.f.} = 3 \quad p > .95$$

During the entire scoring it never went below $p \geq .90$.

When the group had concluded their deliberations and come to a decision, one member of the group was asked to summarize the group's decision. To be asked to perform this function by the group is considered a measure of the spread of leadership within the group. Task initiation and summarizer of the group decision are used to test hypothesis I.

Observation of Differential Information

From the videotapes, the observers recorded which pieces of the differential information were brought into the group discussion. Each piece of information was scored as to whether or not it was brought into the discussion. The results of this measure were used to test hypothesis I.

A Chi Square test of significance was used to determine reliability. Randomly selected groups were double scored. Reliability was unusually high. At the end of a brief training, the Chi Square was:

$$\text{Chi Square} = .58 \quad \text{d.f.} = 3 \quad p > .90$$

Because of the simplicity of the system, only 13% of the groups were double scored; the reliability never went lower than $p > .80$.

Quality of Decisions

Each group was instructed to report their nursing care plan at the end of the group discussion. These plans were transcribed from the videotapes and were rated by nursing experts. The rating scheme consisted of four criteria; 1) nature of the patient's problem; 2) logical linkage between nature of the problem and solution; 3) comprehensiveness of the plan of care; 4) specificity of parts of the plan.

Points were assigned for each of these areas and summed to determine the quality of the plans. The results of the experts' ratings were used to test hypothesis II.

A Kendall's Coefficient of Concordance (W) was calculated as the statistical test of the inter-observer reliability. A W=.887 was found. Significance testing resulted in a Chi Square = 90.474 d.f.=34 $p < .001$.

Satisfaction of the Participants

The social costs to the participants of unequal status work groups are calculated in terms of the satisfaction members derive through participation

in the group. Two dimensions of satisfaction are relevant to the explanation of the findings: 1) satisfaction with the task and 2) satisfaction with the group. The indicators of these dimensions of satisfaction were obtained from responses on the post-discussion questionnaire. The distribution of dissatisfied responses by condition is found in Table 6 and 7.

Status Space and Group Effectiveness

It is more meaningful to analyze these data using the group as the unit rather than the individual because the performance of the individual is dependent on the behavior of the other members of the group. Measures of the dependent variable are averaged across all the groups of a similar composition so that comparisons can be made among the conditions. In order to assure that each group has an equal weight in the averaging process, percentages are used. Thus, the figures that are compared to test the hypotheses are mean percentages of a specific behavior.

As the status space between the members of the group increases, the sharper are the differences in the power and prestige order between members with the high valued states of the status characteristics and with the low valued states of the status characteristics.

One way of comparing the initiation rates of the vocational nursing students and the associate degree nursing students is to rank each member of an occupational pair in a group on their activity rate. The more active member of an occupational pair is designated either the "RN I" or "VN I". Comparisons are made between the resultant more active pairings and less active pairings to find in what direction the differences occurred. The data presented in Table 1 show the number of times the RN student out-talked the VN student, holding activity rate constant. The Sign Test of Significance is used to determine whether the results are attributable to chance. Comparisons can

also be made between the three conditions to see whether the number of more RN pairings which out-initiate the more active VN member of the pair becomes larger in the Two and Three Characteristics Conditions than in the One Characteristic Condition.

TABLE 1 ABOUT HERE

The RN student out talked VN students in all three conditions regardless of activity category. While there is an increase in the sharpness of the distinction of the Two and Three Characteristic Conditions for the more active pairing, the sharpness of this distinction decreases for the less active participants in the Three Characteristic Condition.

Perhaps the most informative presentation of these data is contained in Table 2, since it suggests some idea of the relative differences between the status space of each group within a condition. The difference in the proportion of the more active RN student's contribution and the less active VN student is calculated. These ranges are then averaged for each condition, forming a mean percentage of the range. The average percentage range for a condition is then compared. The Randomization Test for Two Independent Samples is used to determine whether the differences are attributable to chance.

TABLE 2A and 2B ABOUT HERE

The average percentage range for the One Characteristic Condition is smaller than the average percentage range for the other conditions. When pairwise comparisons are made between conditions, this difference reaches statistical significance as predicted for the One Characteristic and Two Characteristic Conditions, and the difference is almost statistically significant for the One Characteristic and the Three Characteristic Conditions. Not as predicted is the finding of no difference, and empirically in the wrong

direction, for the Two and Three Characteristic Conditions. In other words, the size of the status space appears to be affected when at least one social characteristic is added to the effect of the professional distinction.

At the end of the group discussions, the groups were instructed to select one member to summarize the groups' decision. The selection of the summarizer is an indicator of spread of leadership throughout the group. We expect that the number of times a less active RN student and the number of times either VN student is chosen as summarizer should decrease as the number of differentially evaluated status characteristics separating members of a group increases. In Table 3, these data are presented. If two members of the group shared this function, credit for being the summarizer was divided.

TABLE 3 ABOUT HERE

Note that in the One Characteristic Condition there is almost equal likelihood for RN I, RN II, or VN I to assume this leadership function. In the Two Characteristic Condition, the more active RN student is apt to be the summarizer in 87 percent of the groups. In the other 13% of the groups, it is the less active RN student who is the summarizer. The sharing quality of the three more active members, observed in the One Characteristic Condition, is absent. In the Three Characteristic Condition, while the RN I is still the most likely member of the group to be selected as the summarizer, there is a better chance for all of the other members of the group to be chosen.

To summarize, the effects of status are visible in all three conditions. The Two Characteristic Condition appears to show the effects of status space most markedly in the initiation data. None of the data presented supports a three characteristic additive model.

As the status space between the members of the group increases, the amount of information brought into the group discussion will decrease.

In order to test this hypothesis, the mean percentage of differential information was calculated for each condition. The results are found in Table 4A. Groups in the Two Characteristic condition brought in almost ten percent more of the differential information than groups in the One Characteristic condition and twelve percent more than groups in the Three Characteristic condition. It should also be noted that the participants fail to bring in much of the information that is relevant to the patient's condition which is known to only one member of the group. In the Three Characteristic condition, less than a third of the available and relevant information is brought into the discussion.

TABLE 4A and 4B ABOUT HERE

These means can be compared statistically by using the Randomization Test for Two Independent Samples. The results of this statistical comparison are found in Table 4B. All of the comparisons are statistically significant. Although the difference between the means of the One and the Two Characteristic Condition are large, the difference is in the wrong direction. In summary, the results only partially support Hypothesis II.

As the status space between the members of the group increases, the quality of the decisions made by the group will decrease.

To test this hypothesis, the quality of the decisions was compared across conditions. Each decision was rated by a panel of the three experts. Since there was a high degree of reliability between the ratings, the scores of all three raters were summed and a mean was calculated for each condition. These means are found in Table 5A. The Randomization Test for Two Independent Samples is used to compare the means in order to determine whether the differences can be attributable to chance. The resulting t-ratios and the probabilities associated with getting the t-ratio are found in Table 5B.

TABLE 5A and 5B ABOUT HERE

Contrary to predictions, the mean rating of the group decisions in the Two Characteristic Condition is higher than the mean rating in the One Characteristic Condition. The mean rating of the group decisions in the Three Characteristic Condition is 7.6 points lower than the mean rating in the One Characteristic Condition and 28.8 points lower than the mean rating in the Two Characteristic Condition. All of these comparisons are statistically significant. The comparison between the One and Two Characteristic conditions is large, but again, is in the wrong direction. These results only partially support Hypothesis III. Unpredicted is the finding that the quality of the decisions in the Two Characteristic Condition is the highest rather than intermediate between the One and the Three Characteristic Condition.

Discussion and Interpretation

According to Strodtbeck, occupational specialization has two consequences: 1) increasing efficiency, and 2) forming a basis for a status hierarchy. The results of this study indicate that these may be compatible rather than incompatible consequences (1956). The Two Characteristic Condition which showed the most marked effects of the status space was also the most efficient in getting differentially known information into the discussion and was rated as producing the best decisional outcomes.

Apparently, clear differentiation between the group members in the Two Characteristic Condition caused few problems for the group members in accomplishing their tasks. This suggests that for some reason or reasons, the group members in the other two conditions were faced with difficulties to resolve that interferred with their ability to get their job done.

It is possible that features in the initial composition of the group created problems for the group members in the other two conditions that did

not exist for the groups in the Two Characteristic Condition. The author speculates that the extra-professional characteristics of the vocational nurses were dissonant with their occupational distinction in the One and Three Characteristic Conditions, but not in the Two Characteristic Condition. That is, one has to consider the impact of the combination of social characteristics possessed by the participant on the emergence of the status hierarchy in the groups.

The differences in licensure between the LVN and the RN produce different outcomes for each group in terms of what they can legally do in the hospital and what they will be paid for their work. The vocational nurse can do less in the hospital and earns less. Yet, there is not enough difference in their training to justify this state of affairs. As the number of social characteristics differentiating the participants from the two occupational categories, the differences between the RNs and the LVNs become increasingly justified, resulting in greater productivity and more satisfaction among the group members. While this argument is partially consistent with the findings already presented, it would predict that the groups in the Three Characteristic Condition would be the most effective. The findings for the Three Characteristic Condition become clear if one looks to the social context for an explanation. According to the theory being black has been conceptualized as the low valued state of the diffuse status characteristic of race, and being a vocational nurse is the low valued state of occupational prestige. However, within the black community to be a vocational nurse means that the person is highly educated, is upwardly mobile, and since there are few black nurses, is of relatively high occupational prestige. Therefore, they may not perceive that their occupational rewards as compared to the young ADN student are justified by differential

competence. It is this struggle to socially define the ambiguity in the situation for the young white and older black vocational nursing student which inhibited the problem solving in the group.

If a status struggle is the source of the poorer problem solving of these groups, we would expect to find members of these groups to take longer to arrive at a decision, make poorer decisions, and be less satisfied. Data for two of these measures are available. The data on the decisional outcomes have already been discussed, data on satisfaction with the decision and with the group are contained in Table 6 and 7.

Satisfaction with the group's decision provides support for our explanation. One member of the Two Characteristic Condition expressed dissatisfaction with the group's decision as compared to 12.5% of the members in the One Characteristic Condition and 7.5% of the members in the Three Characteristic Condition.

Enjoyment with the group is summarized in Table 7. Fewer members in the Two Characteristic Condition felt neutral or did not enjoy the group than in the other two conditions. In the One Characteristic Condition, 22% of the members either felt neutral about the experience or did not enjoy it. The responses of the members in the Three Characteristic Condition were intermediate. This status struggle had measureable consequences, for if decisions of many of these groups had actually been implemented they would have negatively affected the patient's care and ultimate chances for survival. In these groups, members were precluded from dealing with the task at hand due to their overriding concern with the way they socially presented themselves within the groups.

In summary, when status distinctions between initially unequal status groups are clear and socially accepted, members of inter-professional groups can better concentrate on the vital problem solving and decision-making in

which they are entrusted. While the major thrust of the study dealt with the potentially dysfunctional nature of status space, the results suggest that absence of status struggle is critical to adequate problem solving and the quality of the ensuing patient care decisions made.

Implications for Teaching Teams

The finding that some status distinctions between members of professional work teams can be functional for the quality of problem solving has vital significance for the structuring of teaching teams made up of teachers and teacher aides. This study suggests that if there is real differential in educational preparation between teachers and teacher aides, and the teacher aide is clearly expected to bring in maximum information about the student, the hierarchical differentiated team might be preferable to the equal status team.

Members of the "new occupations" such as teacher aides, vocational nurses, physician assistants are in a position to serve as a bridge between professionals and clients. Potential benefits of this arrangement are found in both the quality of the services rendered. The extent to which this potential is realized and the nature of the costs for both the client and the member of the "new occupational" group are realistic concerns of both the professional educator and the general public.

FIGURE 1

Schematic Design of Conditions Showing
Independent Variables Studied

Condition	(N)	Composition of Group	Status Set
One Characteristic Condition	10	2 young, white associate degree student nurses 2 young, white vocational degree student nurses	occupational prestige
Two Characteristic Condition	15	2 young, white associate degree student nurses 2 older, white vocational degree student nurses	occupational prestige age
Three Characteristic Condition	10	2 young, white associate degree student nurses 2 older, black vocational degree student nurses	occupational prestige age race

TABLE 1

Comparisons of Total Task Initiation Rate by Both Occupational Prestige and Activity Category Using the Sign Test for All Three Conditions

Comparison	Level of Significant Differences (one-tailed)
<u>One Characteristic</u>	
RN student I VN student I (7 pairs vs. 3 pairs)	p <.172 (not significant)
RN student II VN student II (9 pairs vs. 1 pair)	p <.100
All pairs combined (16 pairs vs. 4 pairs)	p <.006
<u>Two Characteristic</u>	
RN student I VN student I (12 pairs vs. 3 pairs)	p <.018
RN student II VN student II (12 pairs vs. 3 pairs)	p <.018
All pairs combined (24 pairs vs. 6 pairs)	p <.001
<u>Three Characteristic</u>	
RN student I VN student I (8 pairs vs. 2 pairs)	p <.055
RN student II VN student II (7 pairs vs. 3 pairs)	p <.172 (not significant)
All pairs combined (15 pairs vs. 5 pairs)	p <.021

TABLE 2A

Average Percentage Ranges for All Three Conditions

Condition	Average Percentage Range
One Characteristic	15.64
Two Characteristic	20.33
Three Characteristic	18.92

TABLE 2B

Result of Randomization Test for Two Independent Samples Comparing Average Percentage Ranges Between Conditions

Comparison	t-ratio	Level of Confidence (one-tailed test)
One and Two Characteristic Condition	t = 2.2	$p < .025$ d.f. = 46
One and Three Characteristic Condition	t = 1.5	$.05 < p < .10$ d.f. = 38
Two and Three Characteristic Conditions	t = -0.6	not significant d.f. = 46

TABLE 3

Summarizer of Group Discussion by Position and Activity Rate for All Three Conditions

Position	Activity Rate	Condition		
		One Characteristic	Two Characteristic	Three Characteristic
RN student	More Active	3.5 (35.0%)	13.0 (87.0%)	6.5 (65.0%)
	Less Active	3.5 (35.0%)	2.0 (13.0%)	2.0 (20.0%)
VN student	More Active	3.0 (30.0%)	-- --	.5 (5.0%)
	Less Active	-- --	-- --	1.0 (10.0%)
		(N = 10)	(N = 15)	(N = 10)

TABLE 4A

Mean Percentage of Differential Information
Brought into Group Discussions for Each Condition

Condition	Mean Percentage
One Characteristic	41.05
Two Characteristic	31.48
Three Characteristic	29.03

TABLE 4B

Results of Randomization Test for Two Independent
Samples Comparing Mean Percent of Differential
Information brought into the Group Discussions
for Each Condition

Comparison	t-ratio	Level of Confidence
Between One Characteristic and Two Characteristic	t = -5.02	$p < .0001$ d.f. = 98
Between Two Characteristic and Three Characteristic	t = 5.2	$p < .0001$ d.f. = 98
Between One Characteristic and Three Characteristic	t = 1.5	$.025 < p < .05$ d.f. = 78

TABLE 5A

Mean Rating of the Group Decisions
for All Three Conditions

Condition	Mean Rating
One Characteristic	86.7
Two Characteristic	65.5
Three Characteristic	57.9

TABLE 5B

Results of Randomization Test for Two
Independent Samples Comparing Mean Ratings
of the Group Decisions Between Conditions

Comparison	t-ratio	Level of Confidence (one-tailed test)
Betweeen One Characteristic and Two Characteristics	t = -2.2	$.025 < p < .01$ d.f. = 73
Between Two Characteristic and Three Characteristics	t = 9.6	$p < .0005$ d.f. = 73
Between One Characteristic and Three Characteristics	t = 2.21	$.025 < p < .01$ d.f. = 58

TABLE 6

Frequency and Percentage of Participants in Each Condition That Expressed Dissatisfaction with the Group's Decision

Condition	Percent Dissatisfied	Size of Sample	Mean of Scale
One Characteristic (N = 10)	12.5% (5)	100.0 (40)	2.25
Two Characteristic (N = 15)	1.6% (1)	100.0 (60)	2.00
Three Characteristic (N = 10)	7.5% (3)	100.0 (40)	2.50

TABLE 7

Frequency and Percentage of Nursing Students in Each Condition That Did Not Enjoy Participating in Their Group

Condition	Total % Did Not Enjoy Participating	Size of Sample	Mean of Scale
One Characteristic	22.5 (9)	100.0 (40)	2.3
Two Characteristic	3.2 (2)	100.0 (60)	1.75
Three Characteristic	7.5 (3)	100.0 (40)	2.0

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